

**REMARKS**

Claims 1 and 3 are cancelled, and claims 6, 7, 9, 16, and 21 are amended. New claims 24 and 25 further limit claim 21.

Claim 6 is amended to depend on claim 21 instead of claim 1. Claim 16 is amended to correct a spelling error.

Claims 7 and 9 are put in independent form by incorporating the subject matter of claim 21, as previously presented, and claim 6. Claim 21 is amended to recite additional limitations on the functional groups.

The present amendment adds no new matter to the application.

**The Rejections**

Because the Examiner has deemed Amendment (C), filed on March 3, 2004, not fully responsive, the following rejections of the claims still stand.

Claims 1, 4, and 5 stand rejected under 35 U.S.C. § 102(b) as anticipated by each of the following references individually: Zalipsky (Bioconjugate Chem. (1995) vol. 6, pp. 150-165, hereinafter "Zalipsky"); Behringwerke Aktiengesellschaft (WO 99/07744, hereinafter "Behringwerke"); Bertozzi et al. (J. Organic Chem., (1991) vol. 56, pp. 4326-4329, hereinafter "Bertozzi"); Konica Corp. (JP 08-220673, hereinafter "Konica"); and Becton, Dickinson (WO 99/172120, hereinafter "Becton").

Claims 2 and 6-20 stand rejected as anticipated under 35 U.S.C. § 102(b), or as unpatentable under 35 U.S.C. § 103(a), with regard to Becton.

Claims 2, 3, and 6-20 stand rejected as anticipated under 35 U.S.C. § 102(b), or as unpatentable under 35 U.S.C. § 103(a), with regard to Zalipsky.

Claims 6-20 stand rejected as unpatentable under 35 U.S.C. § 103(a) with regard to Bertozzi alone, or in combination with each of Zalipsky or Becton.

Claims 6-20 stand rejected as anticipated under 35 U.S.C. § 102(b), or as unpatentable under 35 U.S.C. § 103(a), with regard to Behringwerke.

Claims 1-13, 15, and 17-20 stand rejected under 35 U.S.C. § 102(b) as anticipated under 35 U.S.C. § 102(b), or as unpatentable under 35 U.S.C. § 103(a) as being obvious over Genset (WO 95/01987, hereinafter "Genset").

In the Office Action dated September 3, 2003, there was a rejection of claim 2 under 35 U.S.C. § 112, second paragraph, as indefinite. Applicants believe that the prior-submitted Amendment (C) obviates this rejection.

In view of the present amendment, Applicants respectfully traverse the present rejections and request reconsideration and allowance of the remaining claims for the following reasons.

### **Applicant's Arguments**

#### **Limitations in Dependent Claims**

In response to the Examiner's comment (4) on page 4 in the Office Action dated May 27, 2004, Applicants insist that the limitations in the dependent claims be given weight with regards to examination for patentability. The claims are directed at combinations of features - there is no legally protectable "essence" of the invention. Vas-Cath v. Mahurkar 19 U.S.P.Q.2d 1111, 1118 (Fed. Cir. 1991).

#### **Official Notice**

Applicants restate that certain of the §103(a) rejections use the combination of a single reference and what the Examiner asserts to be known or obvious in the art. Namely, in the Office Action dated September 3, 2003, the following rejections contain such assertions:

- (1) the rejection of claims 7, 9-10, and 20 as unpatentable over Becton (Office Action, pp. 3-4)
- (2) the rejection of claims 3, 7, 10, and 20 as unpatentable over Zalipsky (Office Action, p. 4)
- (3) the rejection of claims 6-20 as unpatentable over Bertozzi (Office Action, p. 5)
- (4) the rejection of claims 6-20 as unpatentable over Behringwerke (Office Action, pp. 5-6).
- (5) the rejection of claims 2-5, 8-11, 15, and 17-20 as unpatentable over Genset (Office Action, p. 6).

In regard to certain claims in some of the above-listed rejections under § 103, although the Examiner may make no mention of obvious knowledge or conventional

techniques in the art, the Examiner provides only a single reference which fails to teach all of the requisite elements of the claim. In such instances Applicants can only assume from the language of the rejection that the Examiner asserts the existence of applicable prior art teaching the remaining elements. All of the above-listed assertions appear to be official notices, however no concrete evidence is provided. Such assertions must be supported by concrete evidence. In re Zurko, 258 F.3d 1379, 1386, 69 U.S.P.Q.2d 1693, 1697 (Fed. Cir. 2001). Therefore, Applicants respectfully request withdrawal of all of the above-listed rejections. In the event Applicants have failed to list above other official notices, Applicants hereby object to and request withdrawal of all official notices in the Office Action dated September 3, 2003.

Characterization of Amendment (C) as Non-Responsive

Applicants object to the Examiner's characterization of the previous Amendment as non-responsive. The Examiner mischaracterizes the Applicant's arguments in support of patentability as mere general allegations (Office Action dated May 27, 2004, page 2, item 2). On the contrary, the second complete paragraph on page 11 of Amendment (C) precisely describes claim language not taught by the references.

Where the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference. In re Rijckaert, 28 U.S.P.Q.2d 1955, 1957 (Fed. Cir. 1993) (citation omitted). In the Office Action dated May 27, 2004, the Examiner repeatedly asks that Applicants point out how the claimed compounds differ from the prior art compounds. Applicants have already done so by pointing out claim limitations absent from the prior art.

Prior Art Rejections

The reference cited against the claims (Zalipsky, Behringwerke, Bertozzi, Konica, Becton, and Genset) fail to teach that "reactive group X is selected from the group consisting of a SiW<sub>3</sub> group with W being a hydrolyzable atom or group, an anthrathione group or a derivative thereof, an anthraquinone group or a derivative thereof, and a benzophenone group or a derivative thereof" in combination with the other elements of

claims 21 and 22, which are the sole independent claims. Therefore Applicants assert that claims 21 and 22 are allowable over the prior art.

Applicants restate the following comments regarding the dependent claims.

Becton teaches preparation of conjugates using polyethylene glycol linkers. Contrary to the Examiner's assertion (Office Action dated Sept. 3, 2004, p. 4, lines 1-2), Becton does **not** teach the "specifically interacting binding partners" of claims 11-14 of the present invention, but rather merely recites "proteins and nucleic acids" including oligonucleotides and antibodies (Becton, claims 7-10). Becton does not even remotely teach the "peptide nucleic acid/nucleic acid, enzyme/substrate, receptor/effector, lectin/sugar, . . . , avidin/biotin or streptavidin/biotin" specific interactions as disclosed in claim 11, on which claims 12-14 depend. For these reasons, Applicants respectfully traverse the rejection of claims 11-14 over Becton.

Regarding the Zalipsky reference, and contrary to the Examiner's assertion (Office Action dated Sept. 3, 2004, p. 4, final paragraph), Zalipsky does not teach the subject matter of claims 11-19. The introductory paragraph of the reference describes clinical applications involving blood contact wherein Zalipsky asserts an appropriateness for polyethylene glycol (Zalipsky, p. 150), and does not teach, or even suggest, a "specifically interacting system of binding partners" as disclosed in present claim 11, and in each of new claims 21 and 22. The next to last paragraph of p. 150 and Table 1 of Zalipsky teach various classes of polyethylene glycol conjugates, and fail to teach a "process for the detection of a biomolecule which is a partner of specifically interacting system of binding partners" as disclosed in present claim 15. Therefore, Applicants respectfully traverse the rejection of claims 11-19 over Zalipsky.

Behringwerke teaches polysaccharide conjugates of biomolecules, a dextran support, and certain specific binding pairs. Contrary to the Examiner's assertions (Office Action dated September 3, 2004, page 6, lines 2-6), Behringwerke fails to teach, or even suggest patterned arrays. Behringwerke otherwise fails to overcome the deficiencies in the references as discussed above. For all of the above reasons, Applicants respectfully traverse the Behringwerke rejections to the claims.

Genset teaches use of compounds as solid supports for nucleic acid synthesis (English-language Abstract) (emphasis added). Contrary to the Examiner's assertions

(Office Action dated September 3, 2004, page 6, lines 15-23), Genset fails to teach, or even suggest, a specifically interacting system, isolation of biomolecules, or patterning of an array on a surface. When the PTO asserts that there is an explicit or implicit teaching in the prior art, it must indicate where such a teaching or suggestion appears in the reference. In re Rijckaert, 28 U.S.P.Q.2d at 1957. Moreover, the Genset reference fails to overcome the deficiencies in the references as discussed above. For all of the above reasons, Applicants respectfully traverse the Genset rejections to the claims.

In summary, because the references fail to teach that "reactive group X is selected from the group consisting of a SiW<sub>3</sub> group with W being a hydrolyzable atom or group, an anthrathione group or a derivative thereof, an anthraquinone group or a derivative thereof, and a benzophenone group or a derivative thereof" along with the other elements of the independent claims, all of the claims are allowable over the prior art. As described above, the dependent claims contain further limitations not described in the prior art.

### **Conclusion**

For all of the above reasons, claims 6-25 are in condition for allowance. Therefore, Applicants respectfully request reconsideration of the application, and a prompt notice of allowance is earnestly solicited.

Questions are welcomed by the below-signed attorney for applicant.

Respectfully submitted,

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